

# INCREASED PREVALENCE OF RESPIRATORY SYMPTOMS AMONG CHILDREN EXPOSED TO DAMPNES AND MOULD AT SCHOOL

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**Background and Aims:** Studies on respiratory health effects of dampness and mould among school-aged children have mainly focused on home environments. We studied the relationships between dampness and mould in school buildings and respiratory symptoms in children.

**Methods:** Primary schools in Finland, The Netherlands and Spain were selected according to the presence (n=29) or absence (n=28) of reported moisture damage (dampness and/or mould) that was confirmed by standardised building inspections. Parent-administered questionnaires among 9425 children aged 6-12 years included lower and upper respiratory tract symptoms in the last year (ISAAC) and potential determinants. Country-specific associations between building dampness problems and the prevalence of respiratory symptoms were assessed using logistic regression analyses adjusted for potential confounders including sex, age, educational level, and mould in the home, and were combined using random-effects meta-analyses.

**Results:** The prevalence of respiratory symptoms was higher in Finland than in the other two countries. Finnish children from exposed schools more often had respiratory symptoms in the last year including wheeze (Odds Ratio (OR) 1.35; 95% Confidence Interval (CI) 1.11-1.65), dry cough at night (OR 1.36; CI 1.13-1.64) and nasal symptoms (OR 1.33; CI 1.16-1.53). Associations for The Netherlands and Spain were not apparent. A significant interaction by country was found for wheeze (P for heterogeneity 0.003) and nasal symptoms (P=0.02). Controlling the analyses for mould or dampness at home did not change the results.

**Conclusions:** These preliminary analyses suggest that moisture damage in schools may have adverse respiratory health effects on the pupils. Finnish schoolchildren seem to be at higher risk, perhaps due to quantitative and/or qualitative differences in exposure characteristics. More complex analyses taking into account these differences as well as other spatial and temporal determinants of exposure related to climate and building use will be considered.